

REMARKS

Claims 1-14 are pending in this application, of which claims 1, 7, 9, and 11 are independent claims.

Claims 2-3 and 4-6 are amended.

I. CLAIM OBJECTIONS

Claims 1-4 and 6-8 are objected to because of minor informalities. Specifically, the Examiner states the article "the" should replace "a" to precede all repeated instances of "substrate." Accordingly, Applicant has amended claims 1-4 and 6-8 to correct these informalities. This amendment is not intended to narrow the scope of these claims.

II. CLAIM REJECTIONS 35 U.S.C. § 102(b)

Claims 1-2, 5-11, and 14 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,980,194 (hereinafter "Freerks"). Applicant respectfully traverses this rejection.

Applicant respectfully submits that the rejections under 35 U.S.C. § 102 are improper as Freerks does not appear to show all features of these claims. Specifically, Freerks does not appear to show "a transmitter/receiver unit adapted to transmit a light beam through a substrate located within a transfer chamber (emphasis added)" nor "a controller coupled to the transmitter/receiver unit and adapted to determine whether the substrate is positioned between the transmitter/receiver unit and the reflector based on an intensity of the reflected light beam received by the transmitter/receiver unit (emphasis added)," as recited in

amended independent claims 1 and 7 and similarly in independent claims 9 and 11.

In Applicant's claimed apparatus, a reflected beam is received whether or not a substrate is present. In contrast, Freerks appears to show an apparatus for wafer detection wherein an optical detector "has a first value when the beam of light is incident on the surface of the optical detector and has a second value when the beam of light is not incident on the optical detector (Freerks, Col. 7, lines 4-8) (emphasis added)." Therefore, as Freerks appears to show a light beam that does not pass through a substrate, Freerks cannot anticipate Applicant's claimed invention.

Further, at Page 7, line 30 to Page 8, line 6 of Applicant's Specification, Applicant describes an example of using the intensity of the reflected beam to determine the presence or absence of a substrate. In the specific non-limiting example, Applicant describes intensity loss through a glass substrate to be about 10%, so that a reflected beam with about 20% less intensity than the original transmitted beam would indicate the presence of a substrate. In any case, a reflected beam is received and detected whether or not a substrate is present. In contrast, Freerks teaches an apparatus that merely determines presence of a wafer if the wafer blocks the light beam and when no beam is detected. To wit:

The output of the optical detector has a first value when the beam of light is incident on the surface of the optical detector and has a second value when the beam of light is not incident on the optical detector. When the opening of a slot... passes through the optical beam path 36, no longer blocking the

path from the light source to the detector, the output of the detector will change from the second value to the first value. Similarly, when the edge of a wafer 10 passes through the optical beam path 36, blocking the path from the light source to the detector, the detector will change from the first value to the second value (Freerks, Col. 7, lines 3-15) (emphasis added).

Accordingly, Freerks does not appear to show all claimed features of independent claims 1, 7, 9, and 11 and therefore cannot anticipate Applicant's claims.

Claims 2, 5, and 6 are dependent on amended independent claim 1 and are submitted as patentable for at least the same reasons as claim 1. Similarly, claims 8 and 10 are dependent on amended independent claim 7 and independent claim 9, respectively, and are submitted as patentable for at least the same reasons as claims 7 and 9. Also, claim 14 is dependent on independent claim 11 and is submitted as patentable for at least the same reasons as claim 11.

Accordingly, reconsideration and withdrawal of the 35 U.S.C. § 102 rejections are respectfully requested.

III. CLAIM REJECTIONS 35 U.S.C. § 103(a)

Claims 3-4 and 12-13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Freerks. Applicant respectfully traverses this rejection.

In order to establish a *prima facie* case of obviousness, the prior art must teach or suggest all the claim limitations. As discussed above with respect to the 35 U.S.C. § 102 rejections, Freerks does not appear to teach or suggest "a transmitter/receiver unit adapted to transmit a light beam through a substrate located within a

transfer chamber" nor "a controller coupled to the transmitter/receiver unit and adapted to determine whether the substrate is positioned between the transmitter/receiver unit and the reflector based on an intensity of the reflected light beam received by the transmitter/receiver unit," as recited in amended independent claim 1 and similarly in independent claim 11. Claims 3-4 and 12-13 depend from claims 1 and 11, respectively. Accordingly, Applicant respectfully submits the rejection of dependent claims 3-4 and 12-13 is improper as the prior art does not appear to show all claim features of the dependent claims and independent claims from which they depend. Applicant respectfully requests the Examiner withdraw this rejection.

Further, the Examiner concedes in the current Office Action at Page 5, Paragraph 1 that Freerks fails to disclose "the angle of the light beam striking the substrate between 2-6 degrees from normal incidence or at an angle of about 3.8 degrees from normal incidence." Applicant's Specification states that "a small angle from normal incidence allows approximately the same position on the substrate S to be measured even if the substrate S travels through the transfer chamber 301 at different elevations/planes (Page 7, lines 18-22)." In contrast, Freerks appears to show a large angle, of about 10 degrees or more, in FIG. 2 and does not appear to disclose use of a small angle elsewhere in the reference. Applicant further submits that Freerks provides no indication of any advantage for using a small angle from normal incidence. Accordingly, Applicant respectfully submits one of ordinary skill in the art would not be taught either implicitly or

explicitly by Freerks to use the angles recited in Applicant's claims 3, 4, 12, and 13.

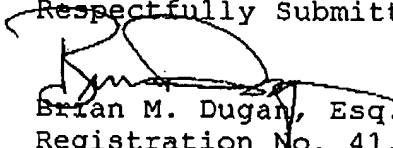
In view of the above, reconsideration and withdrawal of the 35 U.S.C. § 103 rejections are respectfully requested.

IV. Conclusion

Applicant believes all the claims are now in condition for allowance, and respectfully requests reconsideration and allowance of the same.

Applicant does not believe any fees are due regarding this amendment. If any other fees are required, however, please charge Deposit Account No. 04-1696. Applicant encourages the Examiner to telephone Applicant's attorney should any issues remain.

Respectfully Submitted,


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